

TITLE: SELF-CLEANING SPINNER TOP

BACKGROUND OF THE INVENTION

The present invention relates generally to a washing machine including a new top
5 for a washing machine basket. More particularly, though not exclusively, the present invention relates to a washing machine basket top that is self-cleaning.

Problems in the Art

Currently, top loading washing machines typically include a perforated basket
10 which holds the clothes or articles being washed and an agitator to mix the clothes and articles in the wash water. During the wash cycle, the agitator may splash some wash water onto the top of the perforated basket.

The water that is splashed may also include lint and soap. Lint can eventually build up at the top of the basket and create an unsightly mess. Soap scum can also result from
15 suds or soap that is left behind. These problems can be avoided by minimizing soap scum and lint build-up and it is therefore desirable to have a top for an inner basket that is self cleaning.

Prior attempts at removing lint and soap scum build-up are shown in U.S. Patent Nos. 2,526,344 and 4,888,965. U.S. Patent No. 2,526,344 to Geldhof et al. introduces a
20 spray rinse into the basket for the clothes or other articles being washed and simultaneously attempts to eliminate any suds lock between the basket and the tub. The Geldhof patent essentially introduces additional water that must subsequently be removed during a spin cycle. Any lint and soap that is removed during the spin cycle will sit until a subsequent rinse cycle can take place. This may allow soap scum to harden while the washing
25 machine is not in use. It is therefore desirable to have a way to clean an inner basket top that removes lint and soap build-up without injecting additional water into the inner tub.

U.S. Patent No. 4,888,965 to Fanson et al. attempts to rinse the outer tub by deflecting water ejected through the holes in the perforated basket upward. While this may rinse the outer tub during the spin cycle, it does not rinse the top of the spinner basket nor
30 the top of the outer tub. It is therefore desirable to have a self-cleaning top for the inner

perforated basket during spin cycle that cleans both the perforated basket's top and the inside of the outer tub top.

Features of the Invention

5 Accordingly, a general feature of the present invention is the provision of a washing machine with an inner basket that solves the problems found in the prior art.

 A further feature of the present invention is the provision of a washing machine basket that includes a self-cleaning spinner top.

 Another feature of the present invention is the provision of a washing machine
10 basket with a self-cleaning spinner top that minimizes lint and soap build-up during a spin cycle.

 A still further feature of the present invention is the provision of a washing machine that includes a self-cleaning spinner top that does not require additional water to be injected into the inner basket.

15 Another feature of the present invention is the provision of a washing machine that includes a spinner top that cleans itself and the top of the outer basket.

 These as well as other features and advantages of the present invention will become apparent from the following specification and claims.

20 BRIEF SUMMARY OF THE INVENTION

 The present invention generally comprises a cabinet in which a perforated inner wash basket is mounted in a conventional manner. An agitator, drive motor and drive mechanism are mounted within the cabinet, as is well known, to operate the washing machine. Between the perforated wash basket or inner basket, and the cabinet is a tub or
25 outer basket that collects and contains wash and rinse water. Once collected, the wash water or rinse water may be removed from the tub by a pump, as is well known.

 During the wash cycle, the motor operates to agitate the wash solution and clothes load. This causes wash water to be splashed onto the top of the perforated basket. The water that splashes on the top of the perforated basket may also contain lint and/or soap
30 that may lead to build-up conditions.

A top for the perforated basket is added that minimizes any such build-up conditions. The top of the perforated basket includes a reservoir portion near the top thereof that retains clean water originally injected into the inner basket during the wash or rinse cycles. This clean water is retained until the spin cycle begins. The water is placed
5 into the reservoir by one or more deflectors in the water inlet. A deflector in the water inlet allows a majority of the water to be injected into the inner perforated basket while simultaneously directing a small portion of the water into the reservoir. Therefore, every time the washer fills with water, the reservoir is also filled. Alternatively, if a deflector is not used, water may be placed in the reservoir during the agitation of a wash cycle.

10 When the washing machine goes into the spin cycle, centrifugal forces cause the water in the reservoir to flow over the top of the spinner, thus cleaning off lint, soap, and other residues from the top of the spinner basket and top of the outer tub. A top on the outer tub routes the water to the outer tub where it can be pumped away.

15 BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a cross-sectional view of a washing machine of the present invention.

Figure 2 is a sectional view of the preferred embodiment of the upper portions of the inner perforated basket and the outer tub of the present invention.

Figure 3 is a perspective view looking down on the upper portion of the perforated
20 inner basket of the present invention.

Figure 4 is a perspective view looking under the water inlet of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

25 The present invention will be described as it applies to its preferred embodiment. It is not intended that the present invention be limited to the described embodiment. It is intended that the invention cover all modifications and alternatives which may be included within the spirit and scope of the invention.

Now, referring to the drawings, Figure 1 illustrates a cross-section of a typical
30 washing machine 10. The washing machine 10 generally includes an inner basket 12 and an outer basket 14. The inner basket 12 is rotatably secured within the outer basket 14 and

may be rotated therein by a motor 18. The operation and connection of the inner basket 12, the outer basket 14 and the motor 18 are well known in the art.

Near the top of the washing machine 10, a water inlet 16 is placed. Water flows through the water inlet 16 and into the inner basket 12 and outer basket 14. This water may
5 be used in combination with a detergent during the wash cycle or without detergent during a rinse cycle.

The inner basket 12 of the present invention also includes an inner basket top 20. Preferably, the inner basket top 20 is molded plastic that may be spin-welded or otherwise secured to the top of the inner basket 12. As is shown in Figures 2 and 3, the inner basket
10 top 20 includes a reservoir 22 that is located below the highest point of the inner basket top 20. The reservoir 22 may be of any shape capable of retaining water including the curved shape shown. The reservoir 22 may also have straight or angled sides without detracting from the present invention.

The outer basket 14 also includes an outer basket top 24. The outer basket top 24
15 routes any water ejected from the reservoir 22 into the outer basket 14. The outer basket top 24 is also preferably a molded plastic piece that may be snap-fit to or otherwise secured to the top of the outer basket 14.

The water inlet 16 is generally shown in Figure 4. The water inlet 16 is preferably a piece of molded plastic that includes one or more deflectors 26 molded therein. When
20 water flows through the water inlet 16, a majority of it will pass into the inner basket 12 while a smaller portion will be routed by the deflectors 26 into the reservoir 22 as is generally shown in Figure 2.

During a spin cycle, centrifugal forces will cause the water in the reservoir 22 to flow up and over the upper wall, the highest point on the inner basket top 20. Once the
25 water has flowed over the highest point on the inner basket top 20, it is routed by the outer basket top 24 down and into the outer basket 14. During this process, the water from the reservoir 22 removes any excess lint or soap build-up from both the top of the inner basket 12 and the outer basket 14. In this manner, it can be seen that no additional water is needed to clean the inner basket top 20 and outer basket top 24 and that such cleaning may take
30 place during the spin cycle of the washing machine 10.

A general description of the present invention as well as preferred embodiment of the present invention has been set forth above. Those skilled in the art to which the present invention pertains will recognize and be able to practice additional variations in the methods and apparatuses described which fall within the teachings of this invention.

- 5 Accordingly, all such modifications and additions are deemed to be within the scope of the invention which is to be limited only by the claims appended hereto.